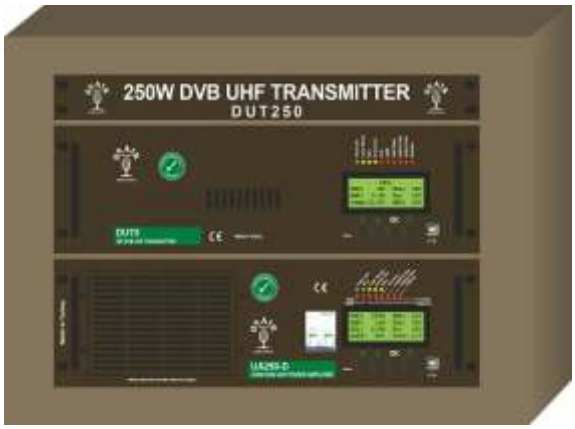
DUT250

250 W UHF DIGITAL TRANSMITTER



DUT250 is a complete transmitter with output power 250 W rms or 625 W p.s. and multiple input interfaces in a single 7U 19” rack chassis.

Supporting DVB-T/H/T2, ISDB-T/Tb, DAB/DAB+/T-DMB, ATSC, PAL and NTSC modulations (dual-cast Analog and Digital is also supported), DUT250 natively offers adaptive pre-correction circuits and built in GPS / GLONASS receiver for accurate synchronization and SFN operations.

Main features:

- Compact 7U 19” Rack chassis
- Output Power up to 250 W rms in digital or up to 625 W p.s. in analogue
- High efficiency broadband amplifier technology
- DVB-T/H/T2, ISDB-T/Tb, DAB/DAB+/T-DMB, ATSC, PAL, NTSC, NICAM modulations fully supported
- Embedded Re-Multiplexer/Layer Combiner/TS to BTS (188 to 204 byte) converter for ISDB-Tb
- Adaptive pre-correction circuits
- Powerful echo canceller when DUT250 is used as an on-channel repeater
- Optional internal demodulator with equalizer for regenerative transposers
- Equalized Digital On-Channel Repeater (Spectrum Restorer) configuration available
- On-board high stability GPS / GLONASS receiver with battery
- Flexible input interfaces:
  - 4 x ASI inputs (TS, BTS, T2MI, SMPTE-310M) + Analog input
  - 2 x ASI inputs and 2 x Gigabit Ethernet
  - 4 x ETI or 2 x ETI + 2 x EDI inputs
  - 1 x DVB-S/S2 Satellite Receiver input
  - 1 x RF input
- SNMP, Web Interface and Touch Screen display

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250 W UHF DIGITAL TRANSMITTER

TRANSMITTER

UHF digital output power: 250 W @ MER 40 dB typ.
UHF analogue output power: 500 W p.s.
Frequency agility: UHF Band IV and V
Frequency resolution: 1 Hz
Pre-correction: Adaptive
RF connector: N(f), 50 Ohm

MODULATOR

DVB-T/-H/-T2

Standard: EN300744, EN302304, EN302755 V1.3.1 (DVB-T2-Lite), TS101191, TS102773 (T2-MI), TS102034
Inputs: 4x ASI BNC(f), 75 Ohm or 2x ASI BNC(f) 75 Ohm and 2x RJ45 TSoIP 10/100/1000 Seamless switch between any input Hierarchical and not hierarchical (DVB-T)
FFT: 1K (DVB-T2), 2K, 4K, 8K, 8K ext. (DVB-T2), 16K & 16K ext. (DVB-T2), 32K & 32K ext. (DVB-T2)
Code rate: All modes available according to the standard Block Short or Normal (DVB-T2) DVB-T: Reed-Solomon (204, 188) DVB-T2: BCH, LDPC
Guard interval: 1/32, 1/16, 1/8, 1/4, 19/256 (DVB-T2), 19/128 (DVB-T2), 1/128 (DVB-T2)
Constellation: QPSK, 16QAM, 64QAM, 256QAM (DVB-T2). Rotated and non rotated (DVB-T2)
MISO processing: Supported

ISDB-Tb

Standard: ABNT NBR 15601, ABNT NBR 15603
Inputs: 4xASI TS/BTS BNC(f), 75Ohm or 2xASI TS/BTS BNC(f), 75 Ohm and 2x RJ45 TS/BTS oIP 10/100/1000 Seamless switch between any input
FFT: Mode 1 (2K), Mode 2 (4K), Mode 3 (8K)
Code rate: 1/2, 2/3, 3/4, 5/6, 7/8
Guard interval: 1/4, 1/8, 1/16, 1/32
Hierarchical mod. : Up to 3 layers
Constellation: QPSK, 16QAM, 64QAM
Time interleaver: Fully supported
Partial reception: Supported

ATSC

Standard: A/53, A/110
Inputs: 4x ASI/SMPTE-310M BNC(f), 75Ohm or 2x ASI/SMPTE-310M BNC(f), 75Ohm and 2xRJ45 TSoIP 10/100/1000 Seamless switch between any input
Modulation: 8-VSB
Input bit rate: 19.39 Mbit/s
Bandwidth: 6 MHz
Max processing delay: Up to 1 second (programmable)

Analogue

Standard: B, G, D, K, M, N, I
Inputs: Video BNC(f), 75Ohm, audio Tini-QG “Mini XLR”, 6 Pin(m), 600 Ohm
Color system: PAL, NTSC
Integrated NICAM encoder: Available

REPEATER/GAP FILLER

RF Input

Signal type: One DTV channel (DVB-T/H/T2, ISDB-T/Tb, ATSC)
Frequency range: 470 ÷ 862 MHz (agile tuning)
Sensitivity: -75 ÷ -15 dBm (-75÷0 dBm on regenerative transposers)
Selectivity : > 60 dB ± 4.2 MHz
NF (Pi=-50 dBm): < 6 dB
Conversion type: Direct Base Band Conversion (Zero IF)
Return losses: > 15 dB
Connector: N (f), 50 Ohm

Echo Canceller

Cancellation level: 40 dB, typical
Cancellation window: 20 µs
Selective cancellation window: 2.4 µs (time shift from 10 to 500 µs)
Doppler cancellation: yes
Maximum echo/signal ratio: +15 dB (over the main signal), typical
Total delay: < 10 µs

GPS / GLONASS (Option)

Input connector: N (f), 50 Ohm
Input/Monitor output 10 MHz: BNC (f), 75 Ohm
Input/Monitor output 1 PPS: BNC (f), 75 Ohm
Phase noise: -140 dBc/Hz @ 10 kHz -150 dBc/Hz @ 100 kHz
Stability: 1e-12 / 24H with disciplined OCXO
Hold-over stability: 5 µs after 5 hours (optional 1 µs after 24 hours)

MECHANICAL

Chassis: 7U rack 19”
Width: 520 mm
Height: 400 mm
Depth: 80 mm without fans
Weight: 56 Kg

CONTROLS

Web GUI , SNMP , GPIO

ENVIRONMENTAL

Operating temp. range: -5°C ÷ 40°C
Max. relative humidity: 90% non condensing
Max. operating altitude: 2500 m. a.s.l. (>2500 m. optional)

ELECTRICAL

Power supply: 3 Phases 380 V~ 50/60 Hz, IEC320 C14 Plug
Efficiency: Up to 33% efficiency in digital (according to model and power)

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